



2016 ZIKA AND FUTURE THREATS INNOVATIONS

Grants awarded to smart and scalable solutions

VECTOR CONTROL

Monash University

Scaled deployment of Wolbachia-infected mosquitoes to block disease transmission



Michigan State University

Wolbachia-infected mosquitoes to suppress population and block disease

Trustees of Indiana University

Natural yeast-based larvicide

Johns Hopkins University

Chromobacterium: an environmentally friendly biopesticide

PERSONAL/ HOUSEHOLD **PROTECTION**

Barcelona Institute for Global Health

Electric force field to repulse mosquitoes

Ifakara Research Institute Liverpool School of Tropical Medicine

Low-cost treated Sandals to prevent bites

QIMR Berghofer Medical Research Inst.

Low-tech treated fabric for outdoor use

Low-cost treated wall hangings for indoor use

Johns Hopkins Bloomberg School of Public Health Human scent mimic mosquito trap



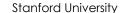
Stanford University

MosquitoFreq: Crowdsourced detection of mosquito species using simple Flip Phones

University of Queensland

Near infrared spectroscopy to detect transmission

hotspots



VectorChip: Design and testing for pathogen identification tools in wild mosquito populations

Sao Paolo University

Intelligent trap to enhance Zika surveillance

Johns Hopkins University

VectorWEB: Low-cost network of cloud

connectedovitraps

COMMUNITY **ENGAGEMENT**

Institute for Global **Environmental Studies** Mosquito Challenge Community Campaign: Kid citizen science to combat Zika



Johns Hopkins Center for Communications Programs Rapid Habit Optimization Tool (R-SHOT): Field tool for recommending optimal habits and motivational tactics





2016 ZIKA AND FUTURE THREATS INNOVATIONS, CONT'D

DISEASE **SURVEILLANCE**

Premise Data

Citizen-led disease risk mapping and vector

monitoring

Real Impact Analytics

Monitoring population movement to determine

areas prone to disease outbreak

Dimagi/Mt. Sinai

Big data and machine-based learning to identify data cold spots to forecast disease hotspots

International Society for Infectious Diseases

Partnership for real-time mapping of disease transmission risk from one country to another

DIAGNOSTICS



J. Craig Venter Institute

Rapid identification of peptides to speed development of Zika diagnostics

Abbott's Ibis Biosciences Business

Rapid, handheld point of care diagnostic for ZIKV, DENV, and CHKV

BluSense Diagnostics

Viro-Track: Rapid point of care diagnostics for ZIKV,

DENV, and CHKV using blue ray technology

SystemOne

WeRobotics

Aspect™ IoT software and portability pack to diagnose patients in the hardest-to-reach areas

UNMANNED AERIAL **VEHICLES**



Vayu

Use of UAVs for delivery/pick-up of medical

products and samples

Mosquito release mechanism on UAVs to support mosquito control

These innovations are in response to the Combating Zika and Future Threats Grand Challenge

issued by USAID in April 2016 to find smart and scalable ideas that can address the current Zika outbreak and help prevent, detect, and respond to future infectious disease outbreaks.

More information at www.usaid.gov/grandchallenges/zika